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## vCard MIME Directory Profile

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### Abstract

This memo defines the profile of the MIME Content-Type [[MIME-DIR](#)] for directory information for a white-pages person object, based on a vCard electronic business card. The profile definition is independent of any particular directory service or protocol. The profile is defined for representing and exchanging a variety of information about an individual (e.g., formatted and structured name and delivery addresses, email address, multiple telephone numbers, photograph, logo, audio clips, etc.). The directory information used by this profile is based on the attributes for the person object defined in the X.520 and X.521 directory services recommendations. The profile also provides the method for including a [[VCARD](#)] representation of a white-pages directory entry within the MIME Content-Type defined by the [[MIME-DIR](#)] document.

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY" and "OPTIONAL" in this document are to be interpreted as described in [[RFC-2119](#)].

## **1. Overview**

The [[MIME-DIR](#)] document defines a MIME Content-Type for holding different kinds of directory information. The directory information may be based on any of a number of directory schemas. This document defines a [[MIME-DIR](#)] usage profile for conveying directory

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information based on one such schema; that of the white-pages type of person object.

The schema is based on the attributes for the person object defined in the X.520 and X.521 directory services recommendations. The schema has augmented the basic attributes defined in the X.500 series recommendation in order to provide for an electronic representation of the information commonly found on a paper business card. This schema was first defined in the [[VCARD](#)] document. Hence, this [[MIME-DIR](#)] profile is referred to as the vCard MIME Directory Profile.

A directory entry based on this usage profile can include traditional directory, white-pages information such as the distinguished name used to uniquely identify the entry, a formatted representation of the name used for user-interface or presentation purposes, both the structured and presentation form of the delivery address, various telephone numbers and organizational information associated with the entry. In addition, traditional paper business card information such as an image of an organizational logo or identify photograph can be included in this person object.

The vCard MIME Directory Profile also provides support for representing other important information about the person associated with the directory entry. For instance, the date of birth of the person; an audio clip describing the pronunciation of the name associated with the directory entry, or some other application of the digital sound; longitude and latitude geo-positioning information related to the person associated with the directory entry; date and time that the directory information was last updated; annotations often written on a business card; Uniform Resource Locators (URL) for a website; public key information. The profile also provides support for non-standard extensions to the schema. This provides the flexibility for implementations to augment the current capabilities of the profile in a standardized way. More information about this electronic business card format can be found in [[VCARD](#)].

## **2. The vCard Mime Directory Profile Registration**

This profile is identified by the following [[MIME-DIR](#)] registration template information. Subsequent sections define the profile definition.

To: ietf-mime-directory@imc.org

Subject: Registration of application/directory MIME profile VCARD

Profile name: VCARD

Profile purpose: To hold person object or white-pages type of directory information. The person schema captured in the directory entries is that commonly found in an electronic business card.

Predefined MIME Directory types used: SOURCE, NAME, PROFILE, BEGIN, END, PROFILE.

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Predefined MIME Directory parameters used: ENCODING, VALUE, CHARSET, LANGUAGE, CONTEXT.

New types: FN, N, NICKNAME, PHOTO, BDAY, ADR, LABEL, TEL, EMAIL, MAILER, TZ, GEO, TITLE, ROLE, LOGO, AGENT, ORG, CATEGORIES, NOTE, PRODID, REV, SORT-STRING, SOUND, URL, UID, VERSION, CLASS, KEY

New parameters: TYPE

Profile special notes: The type-grouping feature of [[MIME-DIR](#)] is supported by this profile to group related vCard properties about a directory entry. For example, vCard properties describing WORK or HOME related characteristics MAY be grouped with a unique group label.

The profile permits the use of non-standard types (i.e., those identified with the prefix string "X-") as a flexible method for implementations to extend the functionality currently defined within this profile.

### **[3. MIME Directory Features](#)**

The vCard MIME Directory Profile makes use of many of the features defined by [[MIME-DIR](#)]. The following sections either clarify or extend the content-type definition of [[MIME-DIR](#)].

#### **[3.1 Predefined Type Usage](#)**

The vCard MIME Directory Profile uses the following predefined types from [[MIME-DIR](#)].

#### **[3.1.1](#) BEGIN and END Type**

The content entity MUST begin with the BEGIN type with a value of "VCARD". The content entity MUST end with the END type with a value of "VCARD".

#### **[3.1.2](#) NAME Type**

If the NAME type appears within a MIME entity conforming to this profile, it's value is the displayable, presentation text associated with the source for the vCard, as specified in the SOURCE type.

#### **[3.1.3](#) PROFILE Type**

If the PROFILE type appears within a MIME entity conforming to this profile, it's value must be "VCARD".

#### **[3.1.4](#) SOURCE Type**

If the SOURCE type appears within a MIME entity conforming to this profile, it's value provides information how to find the source for the vCard.

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#### **[3.2](#) Predefined Type Parameter Usage**

The vCard MIME Directory Profile uses the following predefined types parameters as defined by [[MIME-DIR](#)].

- . LANGUAGE
- . ENCODING
- . VALUE

#### **[3.3](#) Predefined VALUE Type Usage**

The predefined data type values specified in [[MIME-DIR](#)] MAY NOT be repeated in COMMA separated value lists, unless specified by this specification.

### **[3.4](#) Extensions To The Predefined VALUE Types**

The predefined data type values specified in [[MIME-DIR](#)] have been extended by the vCard profile to include a number of value types that are specific to this profile.

#### **[3.4.1](#) BINARY**

The "binary" value type specifies that the type value is inline, encoded binary data. This value type may be specified in the PHOTO, LOGO, SOUND, and KEY types.

If inline encoded binary data is specified, the ENCODING type parameter must be used to specify the encoding format. The binary data **MUST** be encoded using the "B" encoding format. Long lines of encoded binary data may be folded using the folding method defined in [[MIME-DIR](#)].

The value type is defined by the following notation:

binary = <A "B" binary encoded string as defined by [[RFC 2047](#)].>

#### **[3.4.2](#) VCARD**

The "vcard" value type specifies that the type value is another vCard. This value type may be specified in the AGENT type. The value type is defined by this specification. Since each of the type declarations within the vcard value type are being specified within a type value themselves, they **MUST** be terminated with the backslash escapement sequence "\n" or "\N", instead of the character sequence CRLF. For example, with the AGENT type a value would be specified as:

```
AGENT:BEGIN:VCARD\nFN:Joe Friday\nTEL:+1-919-555-7878\nTITLE:Area Administrator\nAssistant\nEMAIL;INTERNET:jfriday@host.com\nEND:VCARD
```

#### **[3.4.3](#) PHONE-NUMBER**

The "phone-number" value type specifies that the type value is a telephone number. This value type may be specified in the TEL type. The value type is a text value that has the special semantics of a telephone number as defined in [CCITT E.163] and [CCITT X.121].

#### **3.4.4 UTC-OFFSET**

The "utc-offset" value type specifies that the type value is a signed offset from UTC. This value type may be specified in the TZ type.

The value type is an offset from Coordinated Universal Time (UTC). It is specified as a positive or negative difference in units of hours and minutes (e.g., +hh:mm). The time is specified as a 24-hour clock. Hour values are from 00 to 23, and minute values are from 00 to 59. Hour and minutes are 2-digits with high order zeroes required to maintain digit count. The extended format for ISO 8601 UTC offsets MUST be used. The extended format makes use of a colon character as a separator of the hour and minute text fields.

The value is defined by the following notation:

```
time-hour      = 2DIGIT          ;00-23
time-minute    = 2DIGIT          ;00-59
utc-offset     = ("+" / "-") time-hour ":" time-minute
```

#### **3.5 Structured Type Values**

Compound type values are delimited by a field delimiter, specified by the SEMI-COLON character (ASCII decimal 59). A SEMI-COLON in a component of a compound property value must be escaped with a BACKSLASH character (ASCII decimal 92).

Lists of values are delimited by a list delimiter, specified by the COMMA character (ASCII decimal 44). A COMMA character in a value must be escaped with a BACKSLASH character (ASCII decimal 92).

This profile supports the type grouping mechanism defined in [MIME-DIR]. Grouping of related types is a useful technique to communicate common semantics concerning the properties of a vCard.

#### **3.6 Line Delimiting and Folding**

This profile supports the same line delimiting and folding methods defined in [[MIME-DIR](#)].

### **4. vCard Profile Features**

The vCard MIME Directory Profile Type contains directory information, typically pertaining to a single directory entry. The information is described using an attribute schema that is tailored for capturing personal contact information. The vCard can include attributes that describe identification, delivery addressing, telecommunications

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addressing, geographical, organizational, general explanatory and security and access information about the particular object associated with the vCard.

### **4.1 Identification Types**

These types are used in the vCard profile to capture information associated with the identification and naming of the person or resource associated with the vCard.

#### **4.1.1 FN Type Definition**

To: ietf-mime-directory@imc.org

Subject: Registration of application/directory MIME type FN

Type name: FN

Type purpose: To specify the formatted text corresponding to the name of the object the vCard represents.

Type encoding: 8bit

Type value: A single text value.

Type special notes: This type is based on the semantics of the X.520 Common Name attribute.

Type example:

FN:Mr. John Q. Public, Esq.

#### **4.1.2 N Type Definition**

To: ietf-mime-directory@imc.org

Subject: Registration of application/directory MIME type N

Type name: N

Type purpose: To specify the structured components of the name of the object the vCard represents.

Type encoding: 8bit

Type value: A single structured text value. Each component may have multiple values.

Type special note: The structured text value corresponds, in sequence, to the Family Name, Given Name, Additional Names, Honorific Prefixes, and Honorific Suffixes. The text components are separated by the SEMI-COLON character (ASCII decimal 59) and possibly one or more LWSP. Individual text components MAY include multiple text values (e.g., multiple Additional Names), separated by the COMMA

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character (ASCII decimal 44). This type is based on the semantics of the X.520 individual name attributes.

Type example:

N:Public;John;Quinlan;Mr.;Esq.

N:Stevenson;John;Philip,Paul;Dr.;Jr.,M.D.,A.C.P.

### [4.1.3](#) NICKNAME Type Definition

To: ietf-mime-directory@imc.org

Subject: Registration of application/directory MIME type NICKNAME

Type name: NICKNAME

Type purpose: To specify the text corresponding to the nickname of the object the vCard represents.

Type encoding: 8bit

Type value: One or more text values separated by a COMMA character (ASCII decimal 44).

Type special note: The nickname is the descriptive name given instead of or in addition to the one belonging to a person, place, or thing. It may also be used to specify a familiar form of a proper name specified by the FN or N types.

Type example:

NICKNAME:Robbie

NICKNAME:Jim, Jimmie

### [4.1.4](#) PHOTO Type Definition



To: ietf-mime-directory@imc.org

Subject: Registration of application/directory MIME type PHOTO

Type name: PHOTO

Type purpose: To specify an image or photograph information that annotates some aspect of the object the vCard represents.

Type encoding: The encoding MUST be reset to "b" using the ENCODING parameter in order to specify inline, encoded binary data. If the value is referenced by a URI value, then the default encoding of 8bit is used and no explicit ENCODING parameter is needed.

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Type value: A single value. The default is binary. It may also be reset to uri. The uri value may be used to specify a value outside of this MIME entity.

Type special notes: The type MAY include the type parameter "TYPE" to specify the graphic image format type. The TYPE parameter values MUST be one of the IANA registered image formats or a non-standard image format.

Type example:

```
PHOTO;VALUE=uri:=http://www.abc.com/pub/photos
/jqpublic.gif
```

```
PHOTO;ENCODING=b;TYPE=JPEG:MIICajCCAd0gAwIBAgICBEUwDQYJKoZIhvcN
AQEEBQAwdzELMAkGA1UEBhMCVVMxLDAqBgNVBAoTI05ldHNjYXB1IENvbW11bm
ljYXRpb25zIENvcnBvcmlF0aW9uMRwwGgYDVQQLExNJbmZvcmlhdGlvbiBTexN0
<...remainder of "B" encoded binary data...>
```

#### [4.1.5](#) BDAY Type Definition

To: ietf-mime-directory@imc.org

Subject: Registration of application/directory MIME type BDAY

Type name: BDAY

Type purpose: To specify the birthdate of the object the vCard represents.

Type encoding: 8bit

Type value: The default is a single date value. It may also be reset to a single date-time value.

Type examples:

BDAY:1996-04-15

BDAY:1953-10-15T23:10:00Z

BDAY:1987-09-27T08:30:00-06:00

## **4.2 Delivery Addressing Types**

These types are concerned with information related to the delivery addressing or label for the vCard object.

### **4.2.1 ADR Type Definition**

To: ietf-mime-directory@imc.org

Subject: Registration of application/directory MIME type ADR

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Type name: ADR

Type purpose: To specify the structured components of the delivery address for the vCard object.

Type encoding: 8bit

Type value: A single structured text value, separated by the SEMI-COLON character (ASCII decimal 59) and optionally one or more LWSP.

Type special notes: The structured text value consists of a sequence of address components. The component values **MUST** be specified in their corresponding position. The structured text value corresponds, in sequence, to the post office box; the extended address; the street address; the locality (e.g., city); the region (e.g., state or province); the postal code; the country name. When a component value is missing, the associated component separator must still be specified.

The type may include the type parameter "TYPE" to specify the delivery address type. The TYPE parameter values may include "dom" to indicate a domestic delivery address; "intl" to indicate an international delivery address; "postal" to indicate a postal delivery address; "parcel" to indicate a parcel delivery address; "home" to indicate a delivery address for a residence; "work" to indicate delivery address for a place of work; and "pref" to indicate the preferred delivery address when more than one address is specified. These type parameter values may be specified as a parameter list (i.e., "TYPE=dom;TYPE=postal") or as a value list (i.e., "TYPE=dom,postal"). This type is based on semantics of the X.520 geographical and postal addressing attributes. The default is "TYPE=intl,postal,parcel,work". The default can be overridden to some other set of values by specifying one or more alternate values. For example, the default can be reset to "TYPE=dom,postal,work,home" to specify a domestic delivery address for postal delivery to a residence that is also used for work.

Type example: In this example the post office box and the extended address are absent.

```
ADR;TYPE=dom,home,postal,parcel;;;123 Main
Street;Any Town;CA;91921-1234
```

#### **4.2.2 LABEL Type Definition**

To: [ietf-mime-directory@imc.org](mailto:ietf-mime-directory@imc.org)

Subject: Registration of application/directory MIME type LABEL

Type name: LABEL

Type purpose: To specify the formatted text corresponding to delivery address of the object the vCard represents.

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Type encoding: 8bit

Type value: A single text value.

Type special notes: The type value is formatted text that may be used to present a delivery address label for the vCard object. The type may include the type parameter "TYPE" to specify delivery label type.

The TYPE parameter values may include "dom" to indicate a domestic delivery label; "intl" to indicate an international delivery label; "postal" to indicate a postal delivery label; "parcel" to indicate a parcel delivery label; "home" to indicate a delivery label for a residence; "work" to indicate delivery label for a place of work; and "pref" to indicate the preferred delivery label when more than one label is specified. These type parameter values may be specified as a parameter list (i.e., "TYPE=dom;TYPE=postal") or as a value list (i.e., "TYPE=dom,postal"). This type is based on semantics of the X.520 geographical and postal addressing attributes. The default is "TYPE=intl,postal,parcel,work". The default can be overridden to some other set of values by specifying one or more alternate values. For example, the default can be reset to "TYPE=intl,post,parcel,home" to specify an international delivery label for both postal and parcel delivery to a residential location.

Type example: A multi-line address label.

```
LABEL;TYPE=dom,home,postal,parcel:Mr.John Q. Public, Esq.\n    Mail Drop: TNE QB\n    123 Main Street\n    Any Town, CA 91921-1234\n    U.S.A.
```

### **4.3 Telecommunications Addressing Types**

These types are concerned with information associated with the telecommunications addressing of the object the vCard represents.

#### **4.3.1 TEL Type Definition**

To: ietf-mime-directory@imc.org

Subject: Registration of application/directory MIME type TEL

Type name: TEL

Type purpose: To specify the telephone number for telephony communication with the object the vCard represents.

Type encoding: 8bit

Type value: A single phone-number.

Type special notes: The value of this type is specified in a canonical form in order to specify an unambiguous representation of

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the globally unique telephone endpoint. This type is based on the X.500 Telephone Number attribute.

The type may include the type parameter "TYPE" to specify intended use for the telephone number. The TYPE parameter values may include: "home" to indicate a telephone number associated with a residence, "msg" to indicate the telephone number has voice messaging support, "work" to indicate a telephone number associated with a place of work, "pref" to indicate a preferred-use telephone number, "voice" to indicate a voice telephone number, "fax" to indicate a facsimile telephone number, "cell" to indicate a cellular telephone number, "video" to indicate a video conferencing telephone number, "pager" to indicate a paging device telephone number, "bbs" to indicate a bulletin board system telephone number, "modem" to indicate a MODEM connected telephone number, "car" to indicate a car-phone telephone number, "isdn" to indicate an ISDN service telephone number, "pcs" to indicate a personal communication services telephone number. The default type is "voice". These type parameter values may be specified as a parameter list (i.e., "TYPE=work;TYPE=voice") or as a value list (i.e., "TYPE=work,voice"). The default may be overridden to another set of values by specifying one or more alternate values. For example, the default TYPE of "voice" can be reset to a WORK and HOME, VOICE and FAX telephone number by the value list "TYPE=work,home,voice,fax".

Type example:

```
TEL;TYPE=work,voice,pref,msg:+1-213-555-1234
```

### [4.3.2](#) EMAIL Type Definition

To: [ietf-mime-directory@imc.org](mailto:ietf-mime-directory@imc.org)

Subject: Registration of application/directory MIME type EMAIL

Type name: EMAIL

Type purpose: To specify the electronic mail address for communication with the object the vCard represents.

Type encoding: 8bit

Type value: A single text value.

Type special notes: The type may include the type parameter "TYPE" to specify the format or preference of the electronic mail address. The TYPE parameter values may include: "internet" to indicate an Internet addressing type, "x400" to indicate a X.400 addressing type or "pref"

to indicate a preferred-use email address when more than one is specified. Another IANA registered address type may also be specified. The default email type is "internet". A non-standard value may also be specified.

Type example:

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EMAIL;TYPE=internet:jpublic@xyz.dom1.com

EMAIL;TYPE=internet:jdoe@isp.net

EMAIL;TYPE=internet,pref:jane\_doe@abc.com

#### [4.3.3](#) MAILER Type Definition

To: ietf-mime-directory@imc.org

Subject: Registration of application/directory MIME type MAILER

Type name: MAILER

Type purpose: To specify the type of electronic mail software that is used by the individual associated with the vCard.

Type encoding: 8bit

Type value: A single text value.

Type special notes: This information may provide assistance to a correspondent regarding the type of data representation which can be used, and how they may be packaged. This property is based on the private MIME type X-Mailer that is generally implemented by MIME user agent products.

Type example:

MAILER:PigeonMail 2.1

#### [4.4](#) Geographical Types

These types are concerned with information associated with geographical positions or regions associated with the object the vCard represents.

##### [4.4.1](#) TZ Type Definition

To: ietf-mime-directory@imc.org

Subject: Registration of application/directory MIME type TZ

Type name: TZ

Type purpose: To specify information related to the time zone of the object the vCard represents.

Type encoding: 8bit.

Type value: The default is a single utc-offset value. It may also be reset to a single text value.

Type special notes: The type value consists of a single value.

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Type examples:

TZ:-05:00

TZ;VALUE=text:-05:00; EST; Raleigh/North America  
;This example has a single value, not a structure text value.

#### [4.4.2](#) GEO Type Definition

To: ietf-mime-directory@imc.org

Subject: Registration of application/directory MIME type GEO

Type name: GEO

Type purpose: To specify information related to the global positioning of the object the vCard represents.

Type encoding: 8bit.

Type value: Two float values separated by the SEMI-COLON character (ASCII decimal 59).

Type special notes: This type specifies information related to the global position of the object associated with the vCard. The value specifies latitude and longitude, in that order (i.e., "LAT LON" ordering). The longitude represents the location east and west of the prime meridian as a positive or negative real number, respectively.

The latitude represents the location north and south of the equator as a positive or negative real number, respectively. The longitude and latitude values must be specified as decimal degrees and should be specified to six decimal places. This will allow for granularity within a meter of the geographical position. The text components are separated by the SEMI-COLON character (ASCII decimal 59). The simple formula for converting degrees-minutes-seconds into decimal degrees is:

$$\text{decimal} = \text{degrees} + \text{minutes}/60 + \text{seconds}/3600.$$

Type example:

GEO:37.386013;-122.082932

## **4.5 Organizational Types**

These types are concerned with information associated with characteristics of the organization or organizational units of the object the vCard represents.

### **4.5.1 TITLE Type Definition**

To: ietf-mime-directory@imc.org

Subject: Registration of application/directory MIME type TITLE

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Type name: TITLE

Type purpose: To specify the job title, functional position or function of the object the vCard represents.

Type encoding: 8bit

Type value: A single text value.

Type special notes: This type is based on the X.520 Title attribute.

Type example:

TITLE:Director, Research and Development

### **4.5.2 ROLE Type Definition**

To: ietf-mime-directory@imc.org



Subject: Registration of application/directory MIME type ROLE

Type name: ROLE

Type purpose: To specify information concerning the role, occupation, or business category of the object the vCard represents.

Type encoding: 8bit

Type value: A single text value.

Type special notes: This type is based on the X.520 Business Category explanatory attribute. This property is included as an organizational type to avoid confusion with the semantics of the TITLE type and incorrect usage of that type when the semantics of this type is intended.

Type example:

ROLE:Programmer

#### **4.5.3 LOGO Type Definition**

To: ietf-mime-directory@imc.org

Subject: Registration of application/directory MIME type LOGO

Type name: LOGO

Type purpose: To specify a graphic image of a logo associated with the object the vCard represents.

Type encoding: The encoding MUST be reset to "b" using the ENCODING parameter in order to specify inline, encoded binary data. If the

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value is referenced by a URI value, then the default encoding of 8bit is used and no explicit ENCODING parameter is needed.

Type value: A single value. The default is binary. It may also be reset to uri. The uri value may be used to specify a value outside of this MIME entity.

Type special notes: The type MAY include the type parameter "TYPE" to

specify the graphic image format type. The TYPE parameter values MUST be one of the IANA registered image formats or a non-standard image format.

Type example:

```
LOGO;VALUE=uri:http://www.abc.com/pub/logos/abccorp.jpg
```

```
LOGO;ENCODING=b;TYPE=JPEG:MIICajCCAdOgAwIBAgICBEUwDQYJKoZIhvcNAQEEBQAwdzELMAkGA1UEBhMCVVMxLDAqBgNVBAoTI05ldHNjYXB1IENvbW11bm1jYXRpb25zIENvcnBvcnF0aW9uMRwwGgYDVQQLExNJbmZvcmlhdGlvbiBTeXN0<...the remainder of "B" encoded binary data...>
```

#### **4.5.4 AGENT Type Definition**

To: ietf-mime-directory@imc.org

Subject: Registration of application/directory MIME type AGENT

Type name: AGENT

Type purpose: To specify information about another person who will act on behalf of the individual or resource associated with the vCard.

Type encoding: 8-bit.

Type value: The default is a single vcard value. It may also be reset to either a single text or uri value. The text value may be used to specify textual information. The uri value may be used to specify information outside of this MIME entity.

Type special notes: This type typically is used to specify an area administrator, assistant, or secretary for the individual associated with the vCard. A key characteristic of the Agent type is that it represents somebody or something that is separately addressable.

Type example:

```
AGENT;VALUE=uri:
  CID:JQPUBLIC.part3.960129T083020.xyzMail@host3.com

AGENT:BEGIN:VCARD\n
  FN:Susan Thomas\n
  TEL:+1-919-555-1234\n
```

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EMAIL;INTERNET:stthomas@host.com\n  
END:VCARD\n

### [4.5.5](#) **ORG Type Definition**

To: ietf-mime-directory@imc.org

Subject: Registration of application/directory MIME type ORG

Type name: ORG

Type purpose: To specify the organizational name and units associated with the vCard.

Type encoding: 8bit

Type value: A single structured text value consisting of components separated the SEMI-COLON character (ASCII decimal 59).

Type special notes: The type is based on the X.520 Organization Name and Organization Unit attributes. The type value is a structured text consisting of the organization name, followed by one or more levels of organizational unit names.

Type example: A type value consisting of an organizational name, organizational unit #1 name and organizational unit #2 name.

ORG:ABC, Inc.;North American Division;Marketing

### [4.6](#) **Explanatory Types**

These types are concerned with additional explanations, such as that related to informational notes or revisions specific to the vCard.

#### [4.6.1](#) **CATEGORIES Type Definition**

To: ietf-mime-directory@imc.org

Subject: Registration of application/directory MIME type CATEGORIES

Type name: CATEGORIES

Type purpose: To specify application category information about the vCard.

Type encoding: 8bit

Type value: One or more text values separated by a COMMA character (ASCII decimal 44).

Type example:

CATEGORIES:TRAVEL AGENT

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CATEGORIES:INTERNET,IETF,INDUSTRY,INFORMATION TECHNOLOGY

#### [4.6.2](#) **NOTE Type Definition**

To: ietf-mime-directory@imc.org

Subject: Registration of application/directory MIME type NOTE

Type name: NOTE

Type purpose: To specify supplemental information or a comment that is associated with the vCard.

Type encoding: 8bit

Type value: A single text value.

Type special notes: The type is based on the X.520 Description attribute.

Type example:

NOTE:This fax number is operational 0800 to 1715  
EST, Mon-Fri.

#### [4.6.3](#) **PROID Type Definition**

To: ietf-mime-directory@imc.org

Subject: Registration of application/directory MIME type PROID

Type name: PROID

Type purpose: To specify the identifier for the product that created the vCard object.

Type encoding: 8-bit.

Type value: A single text value.

Type special notes: Implementations SHOULD use a method such as that specified for Formal Public Identifiers in ISO 9070 to assure that the text value is unique.

Type example:

PROPID:-//ONLINE DIRECTORY//NONSGML Version 1//EN

#### **4.6.4 REV Type Definition**

To: ietf-mime-directory@imc.org

Subject: Registration of application/directory MIME type REV

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Type name: REV

Type purpose: To specify revision information about the current vCard.

Type encoding: 8-bit.

Type value: The default is a single date-time value. May also be reset to a single date value.

Type special notes: The value distinguishes the current revision of the information in this vCard for other renditions of the information.

Type example:

REV:1995-10-31T22:27:10Z

REV:1997-11-15

#### **4.6.5 SORT-STRING Type Definition**

To: ietf-mime-directory@imc.org

Subject: Registration of text/directory MIME type SORT-STRING

Type Name: SORT-STRING

Type purpose: To specify the text to be used in national language specific sorting of the values specified by the FN or N types.

Type encoding: The default is 8bit. May also be reset to 7bit or quoted-printable.

Type value: text

Type special notes: The sort string is used to provide text that is to be used in locale- or national language-specific sorting of the values for the formatted name or structured name types. Without this information, sorting algorithms may incorrectly sort this vCard within a sequence of sorted vCards. If this type is present in a vCard, then this value should be used for sorting the vCard, instead of the values of the FN or N types.

Type example: The following would define the sort string "Harten" for the "FN:Rene J. van der Harten" or "N:van der Harten;Rene;J.;Sir;R.D.O.N.".

`SORT-STRING:Harten`

#### **4.6.6 SOUND Type Definition**

To: [ietf-mime-directory@imc.org](mailto:ietf-mime-directory@imc.org)

### **vCard MIME Directory Profile**

Subject: Registration of application/directory MIME type SOUND

Type name: SOUND

Type purpose: To specify a digital sound content information that annotates some aspect of the vCard. By default this type is used to specify the proper pronunciation of the name type value of the vCard.

Type encoding: The encoding MUST be reset to "b" using the ENCODING parameter in order to specify inline, encoded binary data. If the value is referenced by a URI value, then the default encoding of 8bit is used and no explicit ENCODING parameter is needed.

Type value: A single value. The default is binary. It may also be reset to uri. The uri value may be used to specify a value outside of this MIME entity.

Type special notes: The type MAY include the type parameter "TYPE" to specify the audio format type. The TYPE parameter values MUST be one

of the IANA registered audio formats or a non-standard audio format.

Type example:

```
SOUND;TYPE=BASIC;VALUE=uri:CID:JOHNQPUBLIC.part8.  
19960229T080000.xyzMail@host1.com
```

```
SOUND;TYPE=BASIC;ENCODING=b:MIICajCCAd0gAwIBAgICBEUwDQYJKoZIhvcN  
AQEEBQAwdzELMAkGA1UEBhMCVVMxLDAqBgNVBAoTIO5ldHNjYXBliENvbW11bm  
ljYXRpb25zIENvcnBvcnF0aw9uMRwwGgYDVQLExNjbmZvcmlhdGlvbiBTexN0  
<...the remainder of "B" encoded binary data...>
```

#### **4.6.7 UID Type Definition**

To: ietf-mime-directory@imc.org

Subject: Registration of application/directory MIME type UID

Type name: UID

Type purpose: To specify a value that represents a globally unique identifier corresponding to the individual or resource associated with the vCard.

Type encoding: 8bit.

Type value: A single text value.

Type special notes: The type is used to uniquely identify the object that the vCard represents.

The type may include the type parameter "TYPE" to specify the format of the identifier. The TYPE parameter value may be any IANA registered identifier format. The value may also be a non-standard format.

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Type example:

```
UID:19950401-080045-40000F192713-0052
```

#### **4.6.8 URL Type Definition**

To: ietf-mime-directory@imc.org

Subject: Registration of application/directory MIME type URL

Type name: URL

Type purpose: To specify a uniform resource locator associated with the object that the vCard refers to.

Type encoding: 8bit

Type value: A single uri value.

Type example:

URL:http://www.swbyps.restaurant.french/~chezchic.html

#### **4.6.9 VERSION Type Definition**

To: ietf-mime-directory@imc.org

Subject: Registration of application/directory MIME type VERSION

Type name: VERSION

Type purpose: To specify the version of the vCard specification used to format this vCard.

Type encoding: 8bit

Type value: A single text value.

Type special notes: The value MUST be "3.0" if the vCard version corresponds to this specification.

Type example:

VERSION: 3.0

### **4.7 Security Types**

These types are concerned with the security of communication pathways or access to the vCard.

#### **4.7.1 CLASS Type Definition**

To: ietf-mime-directory@imc.org



Subject: Registration of application/directory MIME type CLASS

Type name: CLASS

Type purpose: To specify the access classification for a vCard object.

Type encoding: 8bit

Type value: A single text value.

Type special notes: An access classification is only one component of the general security model for a directory service. The classification attribute provides a method of capturing the intent of the owner for general access to information described by the vCard object.

Type examples:

CLASS:PUBLIC

CLASS:PRIVATE

CLASS:CONFIDENTIAL

#### [4.7.2](#) KEY Type Definition

To: ietf-mime-directory@imc.org

Subject: Registration of application/directory MIME type KEY

Type name: KEY

Type purpose: To specify a public key or authentication certificate associated with the object that the vCard represents.

Type encoding: The encoding MUST be reset to "b" using the ENCODING parameter in order to specify inline, encoded binary data. If the value is a text value, then the default encoding of 8bit is used and no explicit ENCODING parameter is needed.

Type value: A single value. The default is binary. It may also be reset to text. The text value may be used to specify a text key.

Type special notes: The type may also include the type parameter TYPE to specify the public key or authentication certificate format. The parameter type may specify any IANA registered public key or authentication certificate format. The parameter type may also specify a non-standard format.

Type example:

KEY;ENCODING=b: MIICajCCAdOgAwIBAgICBEUwDQYJKoZIhvcNAQEEBQA  
wdzELMAkGA1UEBhMCVVMxLDAqBgNVBAoTI05ldHNjYXBliENbW11bm1jYX

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Rpb25zIENvcnBvcnF0aW9uMRwwGgYDVQQLExNjbmZvcn1hdGlubiBTeXN0  
ZW1zMRwwGgYDVQDEExNyY2EubmV0c2NhcGUuY29tMB4XDTk3MDYwNj  
E5NDc1OV0xDTk3MTIwMzE5NDc1OVowgYkxCzAJBgNVBAYTA1VTMSYwJAYD  
VQKKEEx1OZXRzY2FwZSBDb21tdW5pY2F0aW9ucyBDb3JwLjEYMBYGA1UEAx  
MPVGltb3RoeSBBIehvd2VzMSEwHwYJKoZIhvcNAQkBFhJob3d1c0BuZXRz  
Y2FwZS5jb20xFTATBgoJkiaJk/IsZAEBEwVob3d1c2BcMA0GCSqGSIb3DQ  
EBAQUAA0sAMEgCQC0JZf6wkG8pLMXHHCUvMfL5H6zjSk4vTTXZpYyrdN2  
dXcoX49LKi0mgeJSzoiFKHtLOIboyludF90CgqcxtwKnAgMBAAGjNjA0MB  
EGCWCsSAGG+EIBAQQEAWIAoDAfBgNVHSMEGDAWgBT84FT0B/GV3jr3mcau  
+hUMbsQukjANBgkqhkiG9w0BAQQFAA0BgQBexv7o7mi3PLXadkmNP9LcIP  
mx93HGp0KgYx1jIVMyNgsemeAwBM+MSlhMfcpbTrONwNjZYW8vJDSoi//y  
rZlVt9bJbs7MNYZVsyF1unsqaln4/vy6Uawfg8VUMk1U7jt8LYpo4YULU7  
UZHPYVUaSGvtIm0HZIKi4hlPXBOhcUQ==

### 4.8 Extended Types

The types defined by this document can be extended with private types using the non-standard, private values mechanism defined in [RFC-2045]. Non-standard, private types with a name starting with "X-" may be defined bilaterally between two cooperating agents without outside registration or standardization.

### 5. Differences With vCard v2.1

This specification has been reviewed by the IETF community. The review process introduced a number of differences with the [VCARD] version 2.1. These differences are minor, but require that vCard objects conforming to this specification have a different version number than a vCard conforming to [VCARD]. The differences include the following:

- . The QUOTED-PRINTABLE inline encoding has been eliminated. Only the "B" encoding of [RFC 2047] is an allowed value for the ENCODING parameter.
- . The method for specifying CRLF character sequences in type values has been changed. The CRLF character sequence in a type value is specified with the backslash character sequence "\n" or "\N".

- . Any COMMA or SEMICOLON in a type value must be backslash escaped.
- . VERSION value corresponding to this specification must be "3.0".
- . The [[MIME-DIR](#)] predefined types of SOURCE, NAME and PROFILE are allowed.
- . The [[MIME-DIR](#)] VALUE type parameter for value data typing is allowed. In addition, there are extensions made to these type values for additional value types used in this specification.

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- . The [[VCARD](#)] CHARSET type parameter has been eliminated. Character set may only be specified on the CHARSET parameter on the Content-Type MIME header field.
- . The [[VCARD](#)] support for non-significant LWSP character, other than after the COMMA character list separator, SEMICOLON character value component separator and the COLON value separator has been eliminated.
- . LOGO, PHOTO and SOUND multimedia formats need to be either IANA registered types or non-standard types.
- . Inline binary content must be "B" encoded and folded. A blank line after the encoded binary content is no longer required.
- . TEL values may be identified as personal communication services telephone numbers with the PCS type parameter value.
- . The CATEGORIES, CLASS, NICKNAME, PRODID and SORT-STRING types have been added.

## **6. Formal Grammar**

The following formal grammar is provided to assist developers in building parsers for the vCard.

This syntax is written according to the form described in [RFC 822](#), but it references just this small subset of [RFC 822](#) literals:

CR               = <ASCII CR, carriage return> ; (15, 13.)

```

LF          = <ASCII LF, linefeed>          ; (12,10.)
CRLF        = CR LF
SPACE       = <ASCII SP, space>              ; (40,32.)
HTAB        = <ASCII HT, horizontal-tab>     ; (11,9.)
WS          = (SPACE / HTAB)

```

All literal property names are valid as upper, lower, or mixed case.

```

char        = <any printable character from the current
              character set >

word        = 1*char

group       = word "."

vcard_entity = 1*(vcard)

vcard       = [group] "BEGIN" ":" [WS] "VCARD" 1*CRLF
              1*([group] item *CRLF
                 [group] "END" ":" [WS] "VCARD" 1*CRLF
              ;All lines may be "folded".

item        = "NAME" *txtparam ":" [WS] text CRLF
              / "PROFILE" *txtparam ":" [WS] "VCARD" CRLF

```

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```

/ "SOURCE" *srcparam ":" [WS] uri CRLF
/ "FN" *txtparam ":" [WS] text CRLF
/ "N" *(txtparam) ":" [WS] nameparts CRLF
/ "NICKNAME" *(txtparam) ":" [WS] text *("," [WS] text)
  CRLF
/ "PHOTO" (imginline / imgrefer)
/ "BDAY" (dateval / datetimeval)
/ "ADR" adrparam ":" [WS] adrparts CRLF
/ "LABEL" *(adrparam) ":" [WS] text CRLF
/ "TEL" *(telparam) ":" [WS] phone-number CRLF
/ "EMAIL" *(emailparam) ":" [WS] text CRLF
/ "MAILER" *txtparam ":" [WS] text CRLF
/ "TZ" [";" [WS] "VALUE" "=" "utc-offset"] ":"
  [WS] utc-offset
/ "GEO" [";" [WS] "VALUE" "=" "float"] ":"
  float ";" float
/ "TITLE" *txtparam ":" [WS] text CRLF
/ "ROLE" *txtparam ":" [WS] text CRLF
/ "LOGO" (imginline / imgrefer)

```

```

/ "AGENT" ":" text CRLF
;The text value MUST be a string of vCard types, each
;type terminated with a "\n" or "\N" escapement.
/ "ORG" *txtparam ":" [WS] orgparts CRLF
/ "CATEGORIES" *txtparam ":" [WS] text *("," [WS] text)
CRLF
/ "NOTE" *txtparam ":" [WS] text CRLF
/ "PRODID" *txtparam ":" [WS] text CRLF
/ "REV" (dateval / datetimeval)
/ "SOUND" (sndinline / sndrefer)
/ "URL" [";" [WS] "VALUE" "=" "uri"] ":" [WS] uri CRLF
/ "UID" [";" [WS] "VALUE" "=" "text"] ":" [WS] text CRLF
/ "VERSION" ":" "3.0"
/ "CLASS" *txtparam ":" [WS] text CRLF
/ "KEY" (keytext) / (keybinary)
/ "X-" word *txtparam ":" [WS] value

txtparam    = (";" [WS] "VALUE" "=" "text")
              / (";" [WS] "LANGUAGE" "=" langval)
              / (";" [WS] "X-" word "=" word)

langval     = <a language string as defined in RFC 1766>

srcparam    = (";" [WS] "VALUE" "=" "uri")
              / (";" [WS] "CONTEXT" "=" word)
              ;Parameter values specifies the protocol
              ; context for the URI value.
              / (";" [WS] "X-" word "=" word)

adrparam    = ";" [WS] ["TYPE" "="] adrtype *("," [WS] adrtype)
              *(txtparam)

adrtype     = "dom" / "intl" / "postal" / "parcel" / "home"
              / "work" / "pref" / ianatype / "X-" word

```

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```

adrparts    = 0*6(text ";") text
              ; PO Box, Extended Address, Street, Locality, Region, Postal
              ; Code, Country Name

orgparts    = *(text ";") text
              ; First is Organization Name, remainder are Organization Units.

nameparts   = 0*4(text *("," text) ";") text *("," text)

```

```

; Family, Given, Middle, Prefix, Suffix.
; Example:Public;John;Q.;Reverend Dr.;III, Esq.

telparam      = ";" [WS] ["TYPE" "="] teltype *("," [WS] teltype)

teltype       = "HOME" / "WORK" / "PREF" / "VOICE" / "FAX" / "MSG"
               / "CELL" / "PAGER" / "BBS" / "MODEM" / "CAR" / "ISDN"
               / "VIDEO" / "PCS" / ianatype / "X-" word

emailparam    = ";" [WS] ["TYPE" "="] emailtype ["," [WS] "PREF"]

emailtype     = "INTERNET" / "X400" / ianatype / "X-" word

imginline     = imginlparm ":" [WS] binary CRLF
               ;Value MUST be "b" encoded image content

imginlparm    = [";" [WS] "VALUE" "=" "binary"]
               ";" [WS] "ENCODING" "=" "b"
               ";" [WS] "TYPE" "=" word
               ;Value MUST be an IANA registered image type

imgrefer      = imgrefparm ":" [WS] uri
               ;URI MUST refer to image content of given type

imgrefparm    = ";" [WS] "VALUE" "=" "uri"
               ";" [WS] "TYPE" "=" word
               ;Value MUST be an IANA registered image type

sndinline     = sndinlparm ":" [WS] binary CRLF
               ;Value MUST be "b" encoded audio content

sndinlparm    = [";" [WS] "VALUE" "=" "binary"]
               ";" [WS] "ENCODING" "=" "b"
               ";" [WS] "TYPE" "=" word
               ;Value MUST be an IANA registered audio type

sndrefer      = sndrefparm ":" [WS] uri
               ;URI MUST refer to audio content of given type

sndrefparm    = ";" [WS] "VALUE" "=" "uri"
               ";" [WS] "TYPE" "=" word
               ;Value MUST be an IANA registered audio type

dateval       = [";" [WS] "VALUE" "=" "date"] ":" [WS] date

datetimeval   = ";" [WS] "VALUE" "=" "date-time" ";" [ws] date-time

```

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/ "KEY" (keytext) / (keybinary)

keytext = ["," [WS] "TYPE" "=" keytype] ["," [WS] "TYPE" "=" "text"] ":" text

keybinary = ["," [WS] "TYPE" "=" keytype] ("," [WS] "TYPE" "=" "binary") ("," [WS] "ENCODING" "=" "b") ":" [WS] binary  
;Value MUST be a "b" encoded key or certificate

keytype = "X509" / "PGP" / ianatype / "X-" word

value = binary / boolean / date / date-time / float / integer / phone-number / text / time / utc-offset / vcard / ianavalue

text = \*(word WS)  
; To include a SEMICOLON in this string it must be escaped  
; with a "\" character. To include a COMMA in this string it  
; MUST be escaped with a "\" characer.

binary = <A text string as defined in [RFC 2047](#)>

date = <A single value as defined in [MIME-DIR](#)>

time = <A single value as defined in [MIME-DIR](#)>

date-time = <A single value as defined in [MIME-DIR](#)>

float = <A single value as defined in [MIME-DIR](#)>

phone-number = <A text value as defined in [CCITT E.163] and [CCITT X.121]>

uri = <A single value as defined in [RFC 1738](#)>

utc-offset = ("+" / "-") time-hour ":" time-minute

time-hour = 2DIGIT ;00-23

time-minute = 2DIGIT ;00-59

ianatype = <Any IANA registered value>

ianavalue = <ANY IANA registered value type format>

### [6.1 Acknowledgements](#)

The authors would like to thank the participants in the IETF ASID working group, in addition to the following individuals, Roland Alden, Stephen Bartlett, Alec Dun, Daniel Gurney, Bruce Johnston,

Daniel Klaussen, Chris Newman, Vinod Seraphin, Michelle Watkins; who provided numerous suggestions and comments on this work.

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### **6.2 Authors's Addresses**

```
BEGIN:vCard
FN:Frank Dawson
ORG:Lotus Development Corporation
ADR;TYPE=WORK,POSTAL,PARCEL;;;6544 Battleford Drive
  ;Raleigh;NC;27613-3502;U.S.A.
TEL;TYPE=VOICE,MSG,WORK: +1-919-676-9515
TEL;TYPE=FAX,WORK: +1-919-676-9564
EMAIL;TYPE=INTERNET,PREF:Frank_Dawson@Lotus.com
EMAIL;TYPE=INTERNET:fdawson@earthlink.net
URL:http://home.earthlink.net/~fdawson
END:vCard
```

```
BEGIN:vCard
FN:Tim Howes
ORG:Netscape Communications Corp.
ADR;TYPE=WORK;;;501 E. Middlefield Rd.;Mountain View;
  CA; 94043;U.S.A.
TEL;TYPE=VOICE,MSG,WORK:+1-415-937-3419
TEL;TYPE=FAX,WORK:+1-415-528-4164
EMAIL;TYPE=INTERNET:howes@netscape.com
END:vCard
```

### **6.3 References**

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[ISO 9070] ISO 9070, Information Processing - SGML support facilities



- Registration Procedures for Public Text Owner Identifiers, April, 1991.

[CCITT E.163] Recommendation E.163 - Numbering Plan for The International Telephone Service, CCITT Blue Book, Fascicle II.2, pp. 128-134, November, 1988.

[CCITT X.121] Recommendation X.121 - International Numbering Plan for Public Data Networks, CCITT Blue Book, Fascicle VIII.3, pp. 317-332, November, 1988.

[CCITT X.520] Recommendation X.520 - The Directory - Selected Attribute Types, November 1988.

[CCITT X.521] Recommendation X.521 - The Directory - Selected Object Classes, November 1988.

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